

REMARKS

Claims 1-19 are pending in the present application. Claims 8, 9, 15 and 16 have been amended to improve the clarity thereof, in accordance with the Examiner's claim objections. The amendments to the claims are clearly non-narrowing claim amendments. No new matter has been added by way of the above amendments.

Rejections under 35 U.S.C. § 102

Claims 1-5, 7-17 and 19 stand rejected under 35 U.S.C. 102(b) as being anticipated by US 2003/0125475 to Sasagawa et al. (hereinafter "Sasagawa"). Applicants respectfully traverse.

Applicants respectfully submit that the present rejection appears to be based on the Examiner's misunderstanding of the present invention. The Examiner states that "Sasagawa et al. teaches a rubber-like material containing article comprising hydrogenated polyisoprene/natural polyisoprenoid". However, Sasagawa is completely silent about natural polyisoprenoid or hydrogenated natural polyisoprenoid.

Sasagawa discloses producing a hydrogenated polymer which is excellent in mechanical strength, heat resistance, etc., by hydrogenating certain polymer having an average vinyl bond content of 20% by weight or more and less than 40% by weight. According to [0017] in Sasagawa:

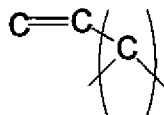
the hydrogenated polymer according to the present invention is hydrogenation product of a polymer whose vinyl bond content is 20% by weight or more.

Furthermore:

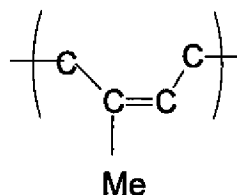
The term “vinyl bond content” as used herein denotes the proportion of conjugating diene units constituting the polymer through a 1,2-bond and a 3,4-bond in all the conjugated diene units constituting the polymer through a 1,2-bond, a 3,4-bond and a 1,4-bond.

The above-mentioned description means that the polymer to be hydrogenated in Sasagawa absolutely contains a monomer unit represented by formula (I) in a certain proportion. Therefore, the polymer of Sasagawa absolutely has a side-chain vinyl group.

In contrast, it is common knowledge that natural polyisoprenoid is constituted only by a monomer unit represented by formula (II). In other words, in natural polyisoprenoid, isoprene repeating units are polymerized only through 1,4 bonds. Therefore, natural polyisoprenoids never have a side-chain vinyl group.



Formula (I)



Formula (II)

As is mentioned above, the structure of the hydrogenated natural polyisoprenoid in the present invention is different from the hydrogenated polymer of Sasagawa. Accordingly, it follows that the chemical structure of the “modified product of the hydrogenated natural polyisoprenoid” of the present invention is also different from that of Sasagawa.

Moreover, the present invention exhibits numerous advantages. For instance, the rubber-like articles or rubber-like material-containing articles according to the present invention can be produced using natural polyisoprenoids as raw material and have excellent heat resistance, excellent mechanical properties, excellent low-temperature resistance and excellent weather resistance. Furthermore, the present invention has economic and environmental advantages, because natural polyisoprenoid is plant-derived and available at low-cost.

Contrary to the Examiner's assertion, Sasagawa does not teach or suggest the idea of producing rubber-like articles which exhibit good mechanical properties, low-temperature resistance and good weather resistance, etc. using natural polyisoprenoid. The Examiner points to paragraph [0021] of Sasagawa to support the assertion that Sasagawa teaches natural polyisoprenoid. However, paragraph [0021] merely exemplifies monomers for producing conjugated diene polymers to be hydrogenated, and never mentions "natural polyisoprenoid."

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Sasagawa cannot constitute a proper rejection under 35 U.S.C. § 102 (b) because it does not teach each and every element of the presently claimed invention, as discussed above. Accordingly, Applicants respectfully request reconsideration and withdrawal of the outstanding rejection.

Rejections under 35 U.S.C. § 103

Claims 6 and 18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Sasagawa in view of USP 4,963,623 to Miller et al. (hereinafter "Miller"). Applicants respectfully traverse.

As discussed in the above rebuttal of the outstanding 35 U.S.C. § 102 (b) rejection, Sasagawa does not teach or suggest the presently claimed invention. Moreover, the combination of Sasagawa and Miller does not arrive at the presently claimed invention because Miller does not cure the deficiencies present in Sasagawa.

Miller teaches modified natural rubber latex compounds by adding a high styrene content styrene-butadiene copolymer. Miller does not teach or suggest hydrogenating a polymer such as natural polyisoprenoid or other rubber-like polymers.

In view of the foregoing, Applicants believe the pending application is in condition for allowance. A Notice of Allowance is earnestly solicited.

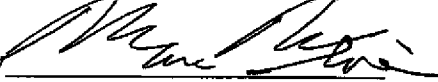
Conclusion

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Monique T. Cole, Reg. No. 60,154 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

By 

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